

REMARKS

This responds to the Office Action dated February 9, 2005, and the references cited therewith.

Claims 1 and 11 are amended, and claim 14 is cancelled. As a result, claims 1-13, 15-21, and 23-31 are now pending in this application.

§102 and §103 Rejection of the Claims

Claims 1-2, 7-8, 11, 13, 23-24 and 28 were rejected under 35 U.S.C. § 102(e) as being anticipated by Tchou et al. (U.S. Publication No. 2001/0037067). Claims 6 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tchou et al. (U.S. Publication No. 2001/0037067) in view of VanHout (U.S. Patent No. 6,668,194). Claims 19 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tchou et al. (U.S. Publication No. 2001/0037067). Claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tchou et al. (U.S. Publication No. 2001/0037067) in view of Turcott (U.S. Patent No. 6,575,912). Claim 26 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tchou et al. (U.S. Publication No. 2001/0037067) in view of Brockway et al. (U.S. Patent No. 6,409,674). Claims 1-2, 5, 7-11, 13, 16 and 29-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Boute (U.S. Patent No. 6,129,744). Claims 1, 7-8, 11-13, 20 and 31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Turcott (U.S. Patent No. 6,480,733). Claims 1, 11-14 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kieval et al. (U.S. Patent No. 6,190,324). Claims 1, 3-4, 8, 11, 15, 23 and 31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bardy (U.S. Patent No. 6,336,903). Claim 21 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bardy (U.S. Patent No. 6,336,903). Claims 6 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Boute (U.S. Patent No. 6,129,744) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Turcott (U.S. Patent No. 6,480,733) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Kieval et al. (U.S. Patent No. 6,190,324) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Bardy (U.S. Patent No. 6,336,903) in view of Tchou et al. (U.S. Publication No. 2001/0037067), and further in view of VanHout (U.S. Patent No. 6,668,194). Claims 19 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over

Boute (U.S. Patent No. 6,129,744) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Turcott (U.S. Patent No. 6,480,733) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Kieval et al. (U.S. Patent No. 6,190,324) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Bardy (U.S. Patent No. 6,336,903) in view of Tchou et al. (U.S. Publication No. 2001/0037067). Claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Boute (U.S. Patent No. 6,129,744) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Turcott (U.S. Patent No. 6,480,733) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Kieval et al. (U.S. Patent No. 6,190,324) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Bardy (U.S. Patent No. 6,336,903) in view of Tchou et al. (U.S. Publication No. 2001/0037067). Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Boute (U.S. Patent No. 6,129,744) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Turcott (U.S. Patent No. 6,480,733) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Kieval et al. (U.S. Patent No. 6,190,324) in view of Tchou et al. (U.S. Publication No. 2001/0037067), or Bardy (U.S. Patent No. 6,336,903) in view of Tchou et al. (U.S. Publication No. 2001/0037067) and further in view of Brockway et al. (U.S. Patent No. 6,409,674). The rejections are traversed and reconsideration is respectfully requested.

Claim 1 has been amended herein to recite a device in which the device controller is programmed to: 1) compute a clinical state vector as a combination of a plurality of parameters related to a patient's heart failure status, wherein the plurality of parameters define an n-dimensional vector space with n being the number of parameters and with each parameter mapped to an ordinal scale that represents a coordinate axis in the n-dimensional vector space, and 2) compute a difference vector between the computed clinical state vector and a previously computed state vector, wherein the magnitude of the difference vector indicates the extent of change in the patient's heart failure status and the direction of the difference vector indicates whether the patient's heart failure status is improving or worsening. Claim 11 has been amended herein to recite similar limitations in terms of a method. Applicant is unable to find a teaching or suggestion in the prior art of record for using a plurality of heart failure-related parameters to define an n-dimensional vector space, for computing past and present clinical state vectors in the n-dimensional vector space, and for computing a difference vector as the vector difference between the present and past clinical state vectors such that the magnitude of the difference

vector indicates the extent of change in the patient's heart failure status and the direction of the difference vector indicates whether the patient's heart failure status is improving or worsening.

Although certain of the prior art references cited above appear to teach using a plurality of sensed parameters to estimate a patient's heart failure status, none of the references teach or suggest using a plurality of such parameters to define a vector space such that a difference vector may be computed which indicates the magnitude and direction of a change in the heart failure status. Applicant therefore respectfully submits that claims 1 and 11 are patentable over the prior art of record. Applicant also respectfully submits that dependent claims 2-10, 12-13, 15-21, and 23-31 recite additional limitations which are neither taught nor suggested by the prior art in the context of the subject matter recited by either claim 1 or 11.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (847) 432-7302 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, MS: Amendment, P.O. Box 1450, Alexandria, VA 22313-1450, on this 9 day of May, 2005.

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